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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,288	04/19/2004	Chien-Hua Chen	200308991-1	9906
22879	7590	12/16/2005	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			NGUYEN, HA T	
			ART UNIT	PAPER NUMBER
			2812	

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/826,288

Applicant(s)

CHEN ET AL.

Examiner

Ha T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 37-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 37-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4-19-4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Notice to applicant***

1. Applicant's election without traverse of Group I, claims 1-18 and 37-40 in the response filed 10-31-5 is acknowledged. Applicants are reminded that a new set of claims with status identifier for each claim indicated, according to 37 CFR 1.121, is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(a) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-8, 11-15, 18, and 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speakman (USPN 6503831).

Referring to Figs. 20 and related text, Speakman discloses [Re claim 1] a method of making a microelectromechanical system device comprising : releasing a micromover component 1302, note this step has to be performed for the micromover to be as shown; and coating the micromover component with a first self-aligned film after releasing the micromover component; [Re claim 2] wherein the step of coating comprises selectively depositing a coating composition only on the micromover component. (see col. 44, lines 23-29) ; [Re claims 3-4 and

37] a method of making a semiconductor device comprising: fabricating at least one component 1302 on a substrate ; and coating the at least one component with a first self-aligned polymer film; wherein the film comprises at least one of a polymer, PMMA and an epoxy photoresist; wherein the polymer is thermoplastic; [Re claim 38] wherein the semiconductor device comprises at least one of a display, a bio-chip, a surface microelectromechanical system device and a bulk microelectromechanical system device (see col. 44, lines 23-52). But it fails to disclose expressly all the limitations in a same process. A person of ordinary skill is motivated to modify Speakman to obtain a MEMS using the disclosed deposition method.

[Re claim 5] Speakman also discloses wherein the polymer is thermoset (see col. 31, lines 11-17);

[Re claim 6] wherein coating the micromover component comprises adjusting a coating parameter to control the film thickness; [Re claim 7] wherein adjusting a coating parameter comprises selecting a solid to solvent ratio; [Re claim 8] wherein adjusting a coating parameter comprises selecting an amount of film material to deposit (see col. 2, lines 30-34, and col. 17, line 45-col. 18, line 34);

[Re claims 11 and 39] coating the micromover component with a second self-aligned film; [Re claims 12 and 40] wherein the second self-aligned film comprises a different material from the first self-aligned film (see col. 6, lines 21-34).

[Re claims 13-15] Speakman fails to disclose expressly wherein one of the self-aligned films comprises a thermoplastic polymer and the other comprises a thermoset polymer; wherein the first self-aligned film and the second self-aligned film have different hardness; wherein the first self-aligned film and the second self-aligned film have different glass transition temperatures. However, these would have been obvious in light of Speakman, which discloses a large variety of materials. The choice of the two materials depends on the desired characteristics of a specific application.

[Re claim 18] Speakman discloses wherein the first self-aligned film is adapted for data storage, anti-wear, anti-reflective, desiccant or an anti-stiction (see col. 11, lines 1-44).

Therefore, it would have been obvious to use the teaching of Speakman to obtain the invention as specified in claims 1-8, 11-15, 18, and 37-40.

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4. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speakman, as applied above, in view of Yao et al. (USPN 6617657, hereinafter "Yao").

Speakman discloses substantially the limitations of claims 9-10, as shown above. It also discloses treating a surface of the micromover component prior to coating and applying an adhesion promoter to the micromover component (see col. 18, line 47-col. 19, line 3).

But it fails to disclose expressly the use of plasma treatment.

However, the missing limitation is well known in the art because Yao discloses this feature (See col. 5, lines 1-15).

A person of ordinary skill is motivated to modify Speakman with Yao to obtain clean surface with better adhesive property by a clean and well-proven method.

Therefore, it would have been obvious to combine Speakman with Yao to obtain the invention as specified in claims 9-10.

5. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speakman, as applied above, in view of Jacobson et al. (USPN 6587408, hereinafter "Jacobson"), .

Speakman discloses substantially the limitations of claims 16-17, as shown above.

But it fails to disclose expressly [Re claim 1 6] bonding a wafer having at least one contact probe or AFM tip opposite the self-aligned film; [Re claim 1 7] fabricating a contact atomic resolution storage device.

However, the missing limitations are well known in the art because Jacobson discloses these features (See Figs.3C-3F and col. 8, lines 5-23).

A person of ordinary skill is motivated to modify Speakman with Jacobson to obtain high-density data storage.

Therefore, it would have been obvious to combine Speakman with Jacobson to obtain the invention as specified in claims 16-17.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha T. Nguyen whose telephone number is (571) 272-1678. The

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examiner can normally be reached on Monday-Friday from 8:30AM to 6:00PM, except the first Friday of each bi-week. The telephone number for Wednesday is (703) 560-0528.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael S. Lebentritt, can be reached on (571) 272-1873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ha Nguyen
Primary Examiner
12- 11 - 05